Build manual for the DSO138 acrylic enclosure

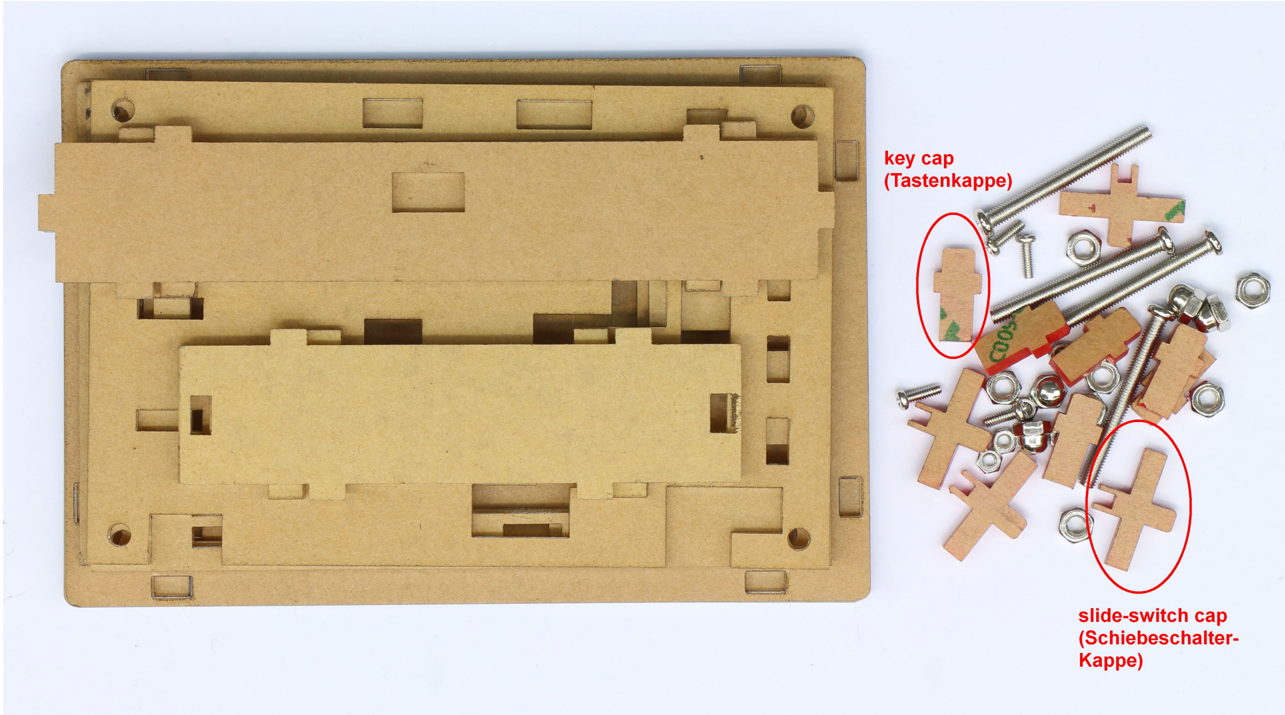


Abbildung 1: Overview of the parts

Carefully check the content auf the case-kit:

- acrylic parts: base-plate, 3 intermediate plates, cover-plate, 4 side-parts
- red acrylic parts: 3 slide-switch caps, 5 pushbutton-caps (+1 or 2 spares)
- 4 long bolts M3x30, 8 nuts M3, 4 cover-nuts M3
- 4 short M2x6 bolts, 4 M2 nuts

The acrylic parts (also the red caps) have a brown paper protective film on each side.
Carefully peel off the protective films before assembling.
Finger prints should only be removed with a fine-mesh microfibre-cloth.
Never use any chemicals lice alcohol, petroleum etc!
The microfibre-cloth should be wetted with a mix 1 drop of a mild washing-detergent in 1l of lukewarm water.

In this build-manual the brown protective films on the acrylic parts are shown left on for better visibility of the (otherwise transparent) parts.
Don´t forget to peel off :-)

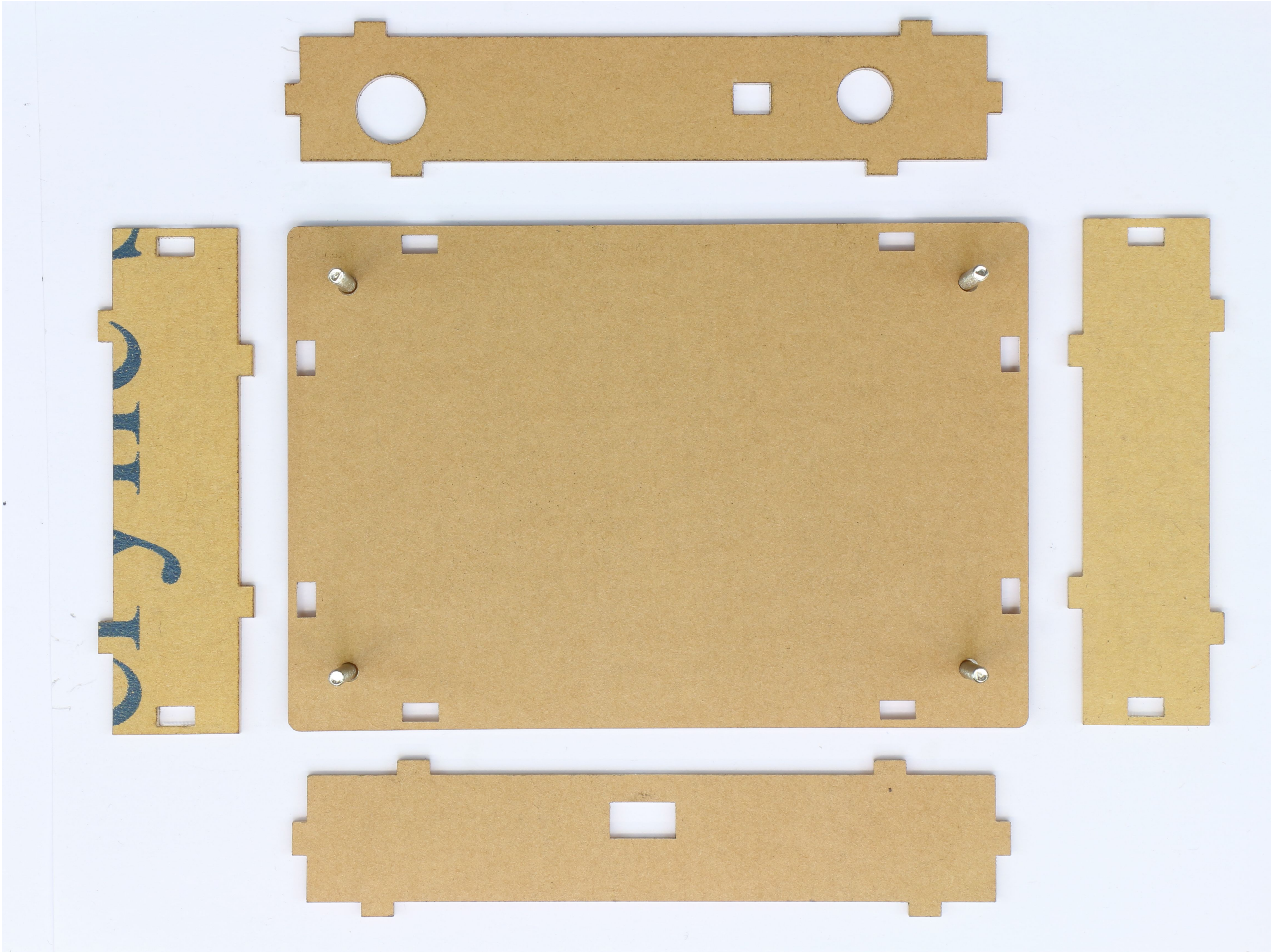


Abbildung 2: Base-plate with 4 long M3x30 bolts und 4 side-plates

Put the base-plate and the 4 side-parts in the orientation as shown here flat on a table.
Insert the 4 long M3x30 bolts from below into the base-plate and fix them loosely with 4 M3-nuts (not shown here).
The M3-nuts are fastened only in the second-last step of this manual.

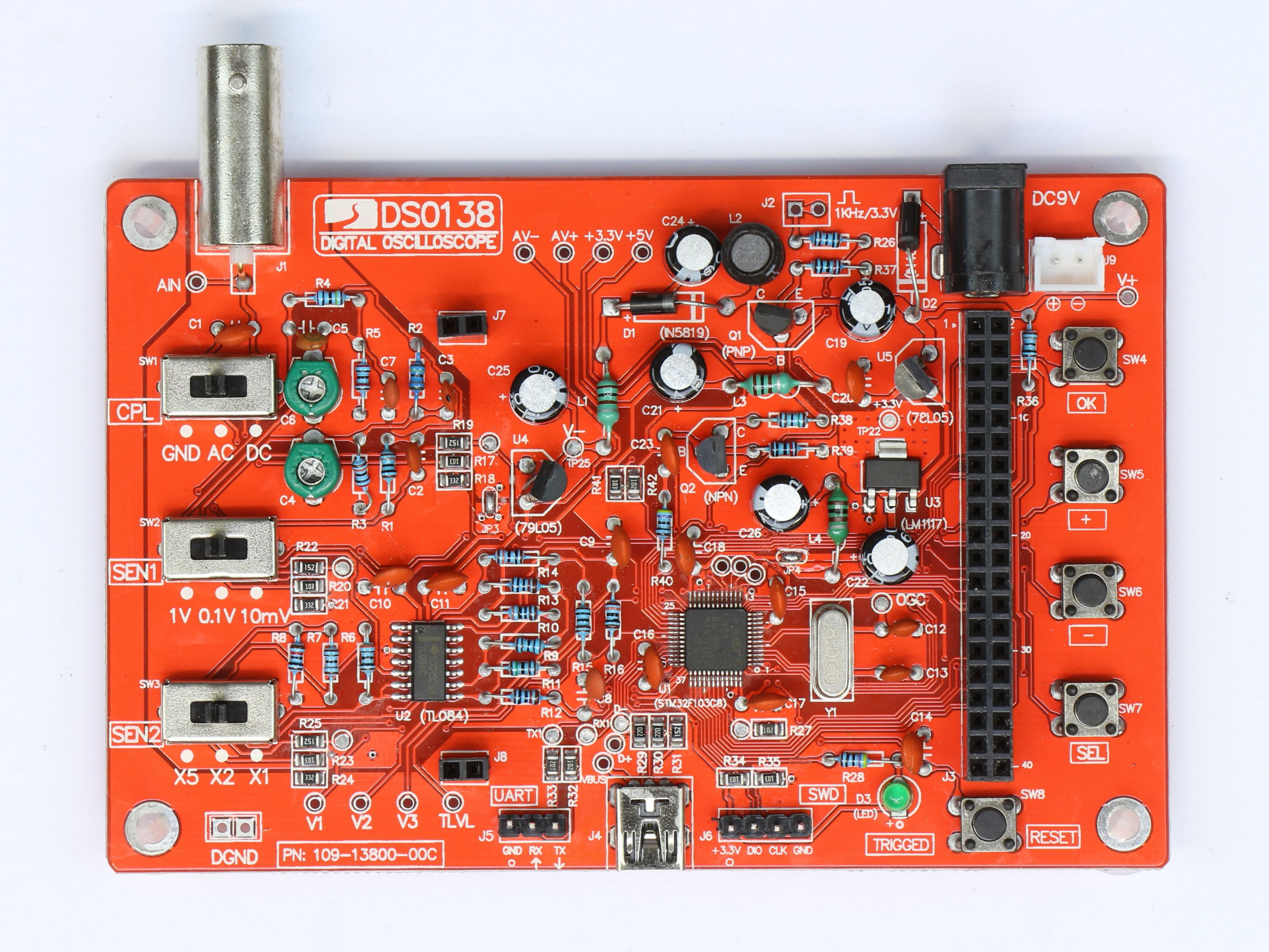


Abbildung 3: DSO138 shown with detached display

Carefully detach the display-PCB of the DSO138 from the motherboard.
Grip it at the right long side where it is fastened with the large double-pinheader with the motherboard.
You need some force and some wiggling to get it out.
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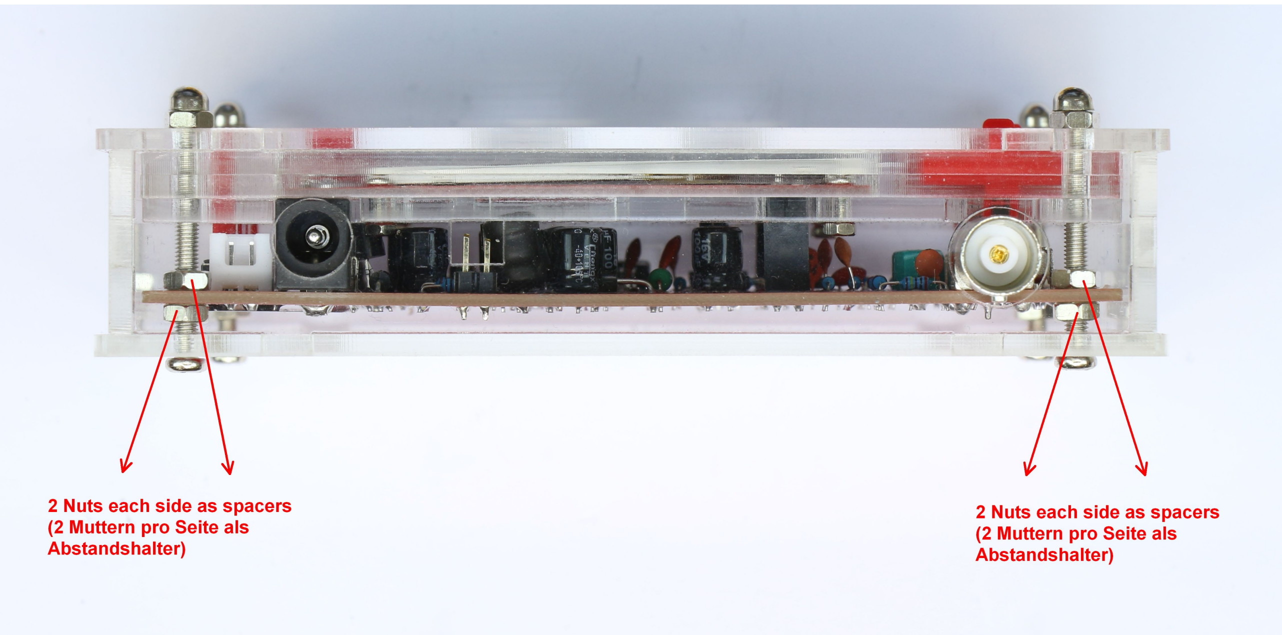
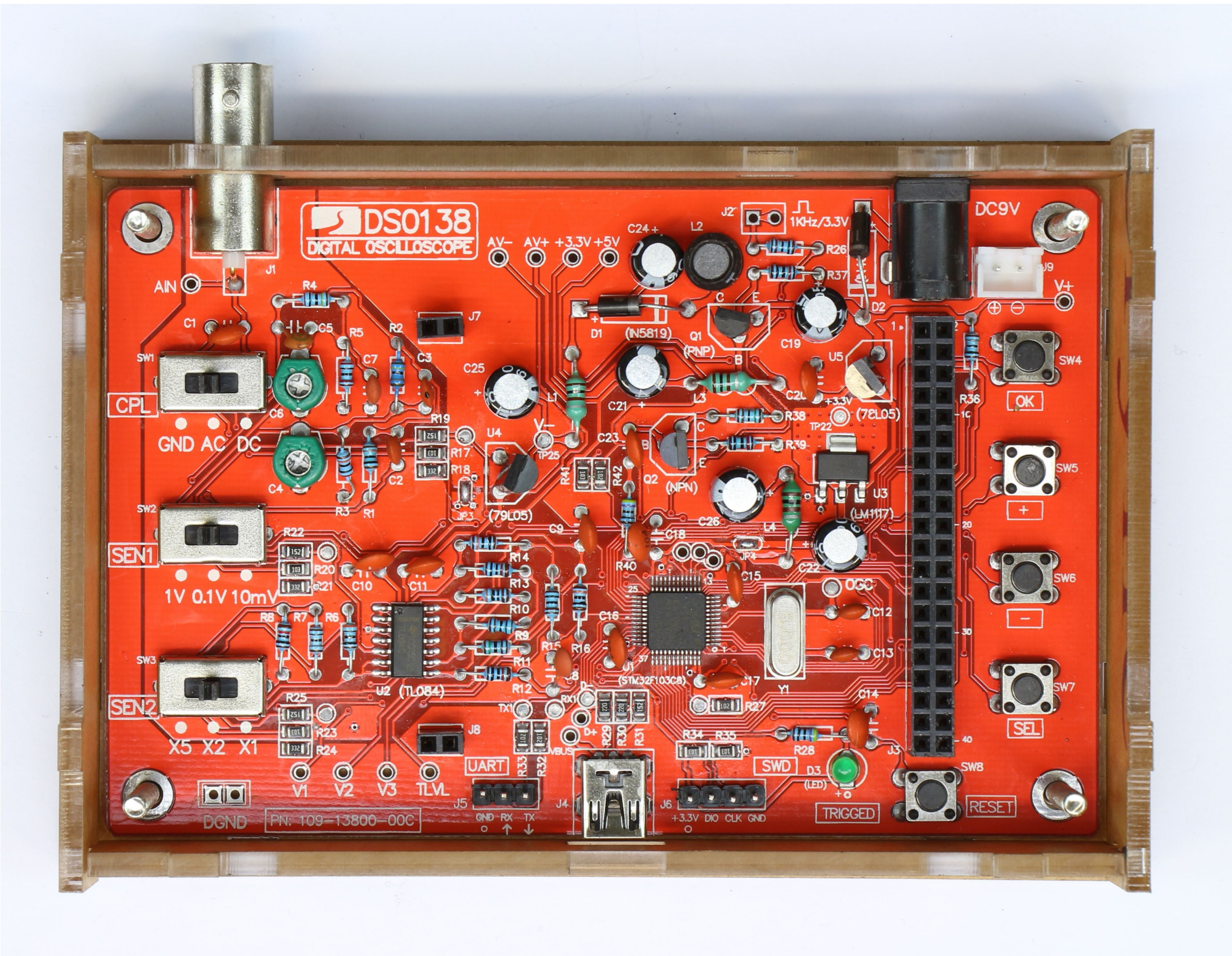


Abbildung 4: 4 nuts as spacers for the motherboard. Side-view of the fully assembled device

bolt another 4 M3-nuts onto the long M3x30 srews.
They serve as spacers for the motherboard.
You get the right position if the BNC-jack and the barrel-jack are centered at the holes of the temporarily inserted side-plates.

The image here contains an error! The 4 upper M3-nuts are needless. They belong down at the bottom of the long M3x30 bolts to fasten the M3 bolts.
Die oberen 4 Muttern über der Platine sind überflüssig.



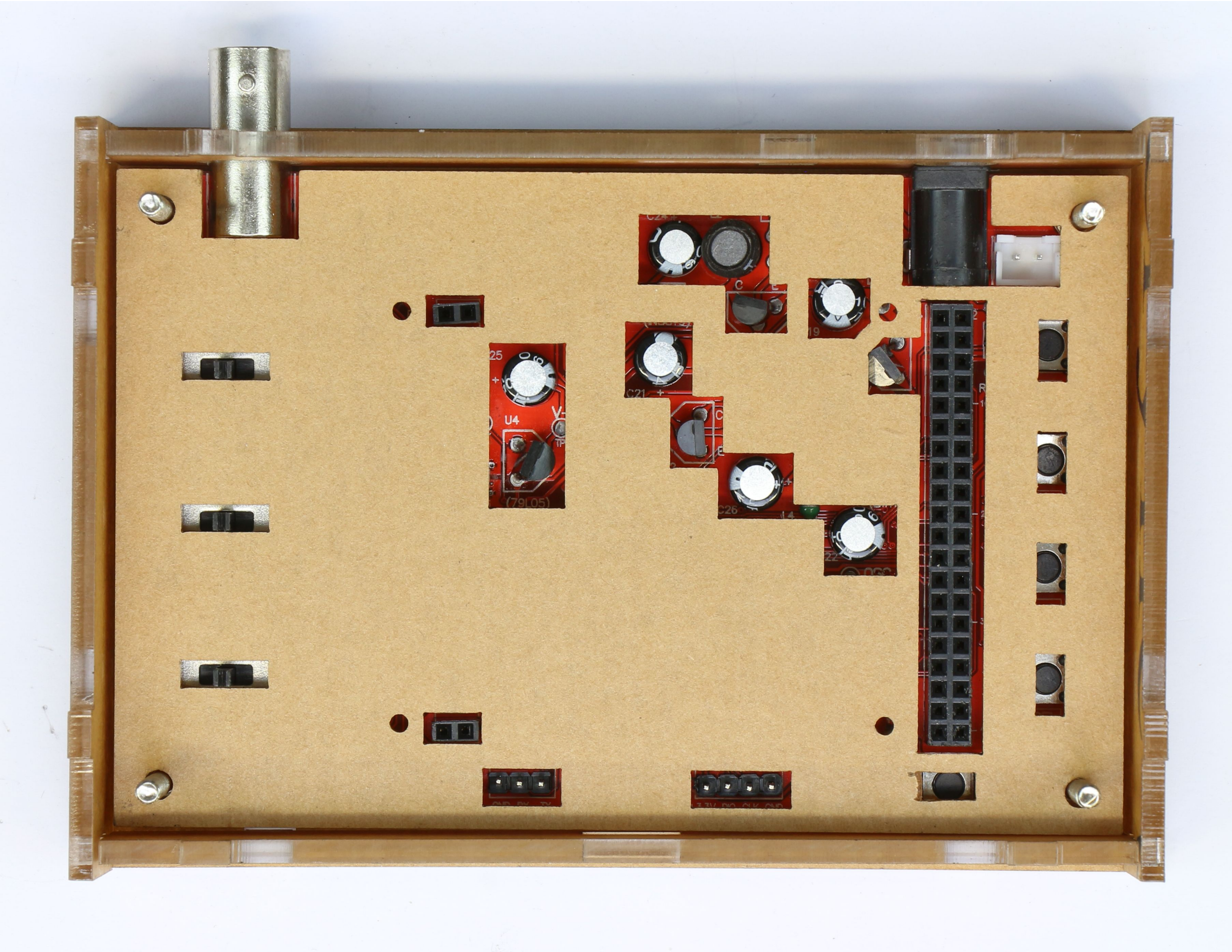


Abbildung 5: First intermediate-plate above the motherboard

Insert the first intermediate-plate with the many cutouts as shown.

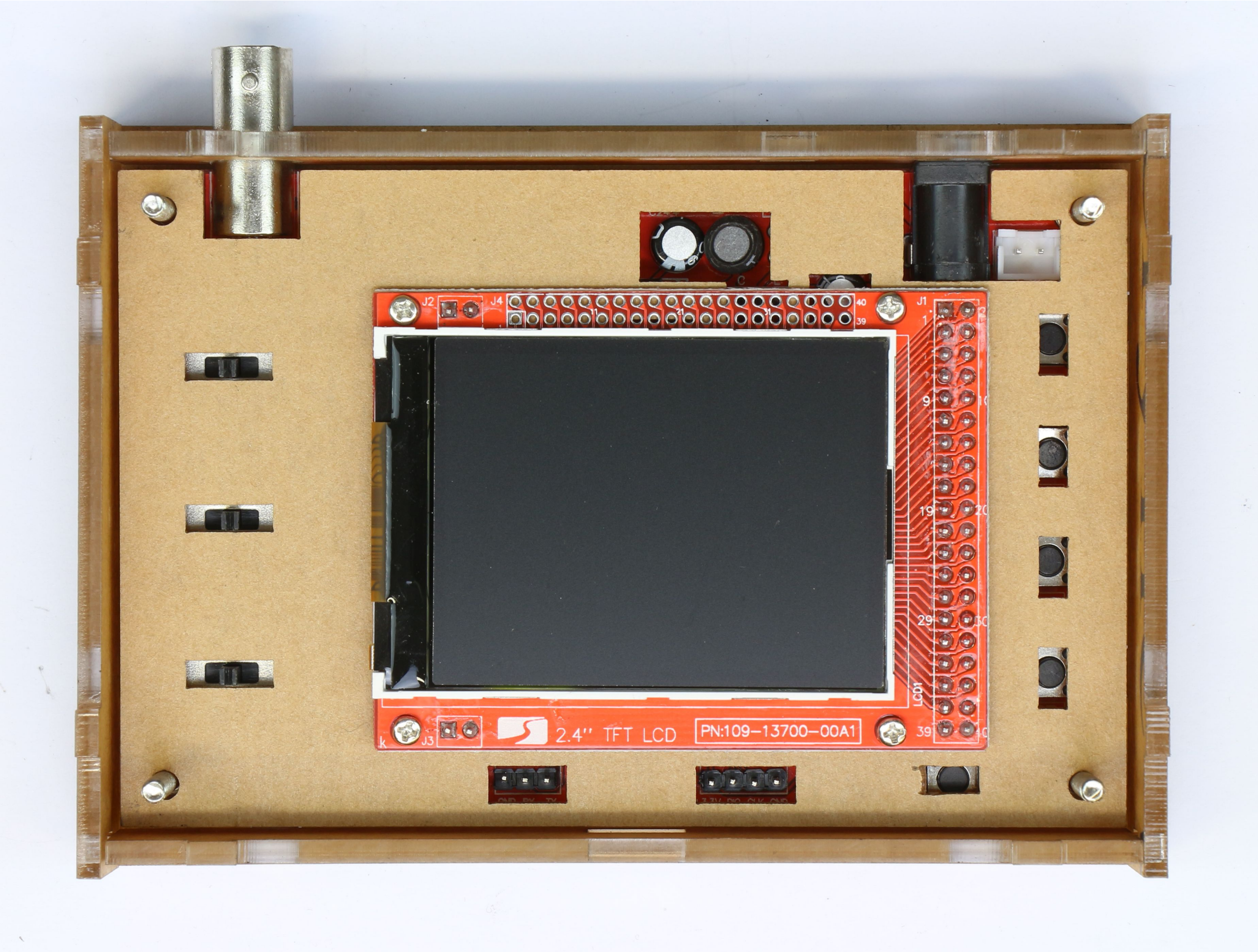


Abbildung 6: Display + 2 identical intermdiate-plates

Now cautiously re-insert the display into the pinheaders.
Watch out that there is second small 2pin-pinheader on the top-left of the display-PCB.

Then connect the display with the first intermediate-plate by means of the 4 little M2x6 bolts and nuts.

Then insert the 2 identical intermediate on the stack of plates.

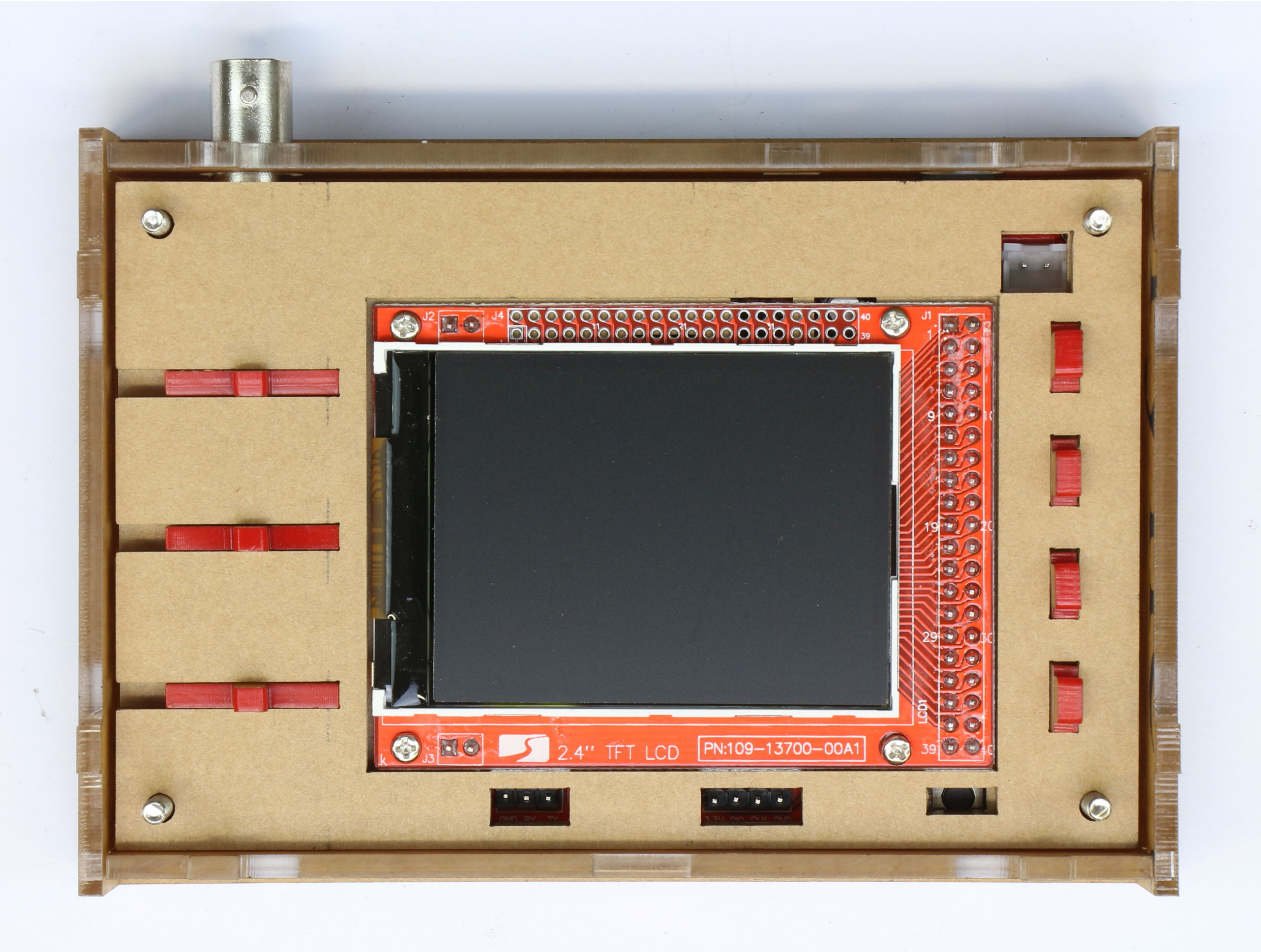


Abbildung 7: Caps for slide-switches and pushbuttons (cap for RESET-keys accidentally forgotten!)

Now insert the 3 caps for the slide-switches into the long slots on the left side.
Try out if the lowerside cutouts grip the slide-switch by sliding the caps left and right

On the right insert the 4 caps for the pushbuttons.
There is a fifth cap on the lower right for the RESET-button, which was forgotten when taking the picture.

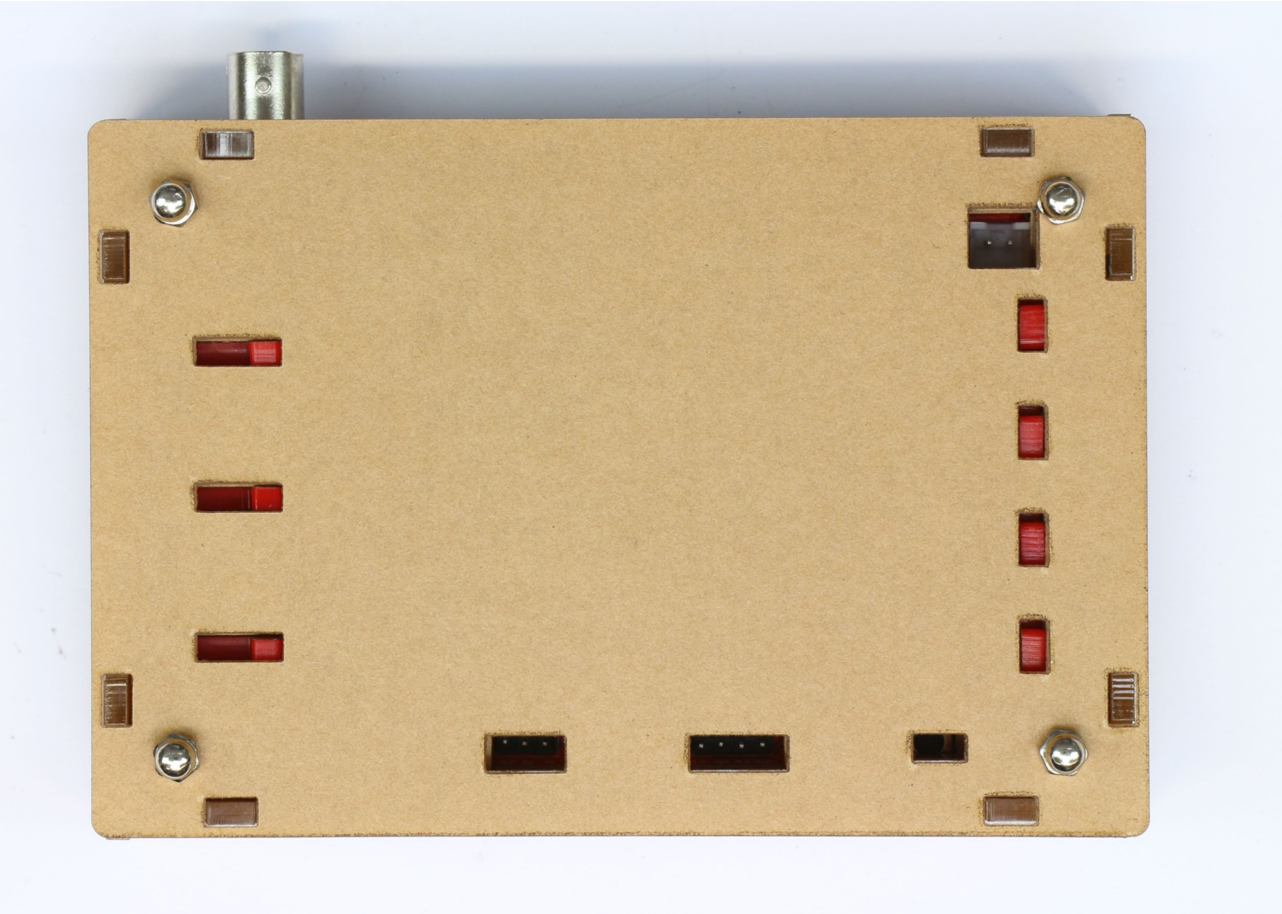


Abbildung 8: Cover-plate fixed with und 4 cover-nuts (cap for RESET-keys still forgotten!)

Now temporarily put the cover-plate onto the stack and check if everything fits well.
If yes, take off the covre-plate and the 4 side-plates and finally fasten the lowermost nuts on the long M3x30 bolts.

Then reinsert the 4 sideplates and the cover-plate and fix the stack with the 4 cover-nuts.

Important Remark:
The 4 cover-nuts and the lowerside bolt-heads of the M3x30 bolts are connected to the ground of the PCB!
So be very careful when placing the DSO on a conductive surface or even onto the the device under test.
You could shorten out and destroy the DSO138 or your DUT!
It´s best to isolate at least the lowerside bolt-heads with some tape and perhaps replace the 4 metal cover-nuts with nylon cover-nuts.